

Serial No. 10/783,728

Preliminary Amendment

Amendments to the Claims

Prior to substantive examination, please amend the claims as follows:

1-25. (cancelled)

26. (original) A system for preparing a fountain solution, comprising;
a source of a first liquid concentrate comprising a film-forming water-soluble polymer, organic acid, and less than about 30 % by wt water;
a source of a second liquid concentrate comprising a wetting agent of the fountain solution, and less than about 10 % by wt water;
a source of water; and
an apparatus operable for metering a proportion of a stream of each of the first and second liquid concentrates into a stream of the water to form the fountain solution.
27. (original) The system of Claim 26, wherein the apparatus is operable to meter about 0.1-2 % by volume of the first and second concentrates into the water.
28. (original) The system of Claim 26, wherein the metering apparatus comprises a proportioning pump comprising an inlet for the first concentrate, an inlet for the second concentrate, an inlet for the water source, an outlet for dispensing the fountain solution, and a motor piston connected to first and second metering pistons; wherein movement of the motor piston meters water into the apparatus, and causes movement of the first and second metering pistons to meter a proportion of the first and second concentrates into the water within the pump.
29. (original) The system of Claim 26, wherein the metering apparatus comprises a conduit for discharging the fountain solution therefrom, and the system further comprises a container for receiving and holding the discharged fountain solution.
30. (original) The system of Claim 29, wherein the container comprises a recirculating tank.

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31. (original) The system of Claim 26, further comprising at least one measuring device in contact with the fountain solution, the measuring device selected from the group consisting of a pH probe, a conductivity probe, and a surface tension probe.

32. (original) The system of Claim 26, wherein a device for controlling the proportion of the first liquid concentrate, the second liquid concentrate, or both, metered into the stream of the water, is connected to the measuring device and operably responsive to the output measurement of the pH, the conductivity, or the surface tension to adjust the proportion of the first or the second liquid concentrate metered into the stream of the water when a value of the output measurement deviates from a predetermined value.

33-55. (canceled)

56. (previously presented) A system for preparing a lithographic fountain solution, comprising:

a first liquid concentrate comprising one or more film-forming components of the fountain solution;

a second liquid concentrate comprising one or more wetting components of the fountain solution; and

a mixing apparatus structure to continuously meter proportions of the first and second liquid concentrates into a water source.

57. (previously presented) The system of Claim 56, wherein the first liquid concentrate comprises a film-forming polymer and organic acid.

58. (previously presented) The system of Claim 56, wherein the first liquid concentrate comprises a water-soluble film-forming polymer selected from the group consisting of gums, starch derivatives, complex sugars, alginates, cellulose derivatives, or a combination thereof.

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59. (previously presented) The system of Claim 56, wherein the first liquid concentrate further comprises an inorganic acid, inorganic acid salt, buffering agent, water-soluble glycol solvent, biocide, desensitizing agent, chelating agent, dye, or a combination thereof.
60. (previously presented) The system of Claim 56, wherein the first liquid concentrate comprises about 10-60 % by wt film-forming polymer, about 5-50 % by wt organic acid, about 5-50 % by wt inorganic acid, and about 5-30 % by wt buffering agent.
61. (previously presented) The system of Claim 56, wherein the second liquid concentrate comprises a diluent, solvent, and surfactant.
62. (previously presented) The system of Claim 56, wherein the second liquid concentrate comprises a diluent selected from the group consisting of water-soluble glycols, glycol ethers, and a combination thereof; and a solvent selected from the group consisting of partially water-soluble glycols, ethers, esters, alcohols, and a combination thereof.
63. (previously presented) The system of Claim 56, wherein the second liquid concentrate further comprises a biocide, dye, defoaming agent, dosage marker, aromatic sulfonate, alkyl sulfate, or a combination thereof.
64. (previously presented) The system of Claim 56, wherein the second liquid concentrate comprises up to about 80 % by wt diluent, about 1-25 % by wt solvent, and about 1-50 % by wt surfactant.
65. (previously presented) The system of Claim 56, wherein the first liquid concentrate comprises up to about 30 % by wt water being derived from ingredient components.
66. (previously presented) The system of Claim 56, wherein the second liquid concentrate comprises up to about 10 % by wt water being derived from ingredient components.

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67. (previously presented) A system for preparing a fountain solution, comprising the following components packaged together:

first and second liquid concentrates each separately contained and packaged together; the first liquid concentrate comprising one or more water-soluble film-forming polymers, and one or more organic acids; and the second liquid concentrate comprising one or more diluents, one or more solvents, and one or more surfactants; and

a metering apparatus operable for delivering a proportion of each of the first and second liquid concentrates into water to form the fountain solution.

68. (previously presented) The system of Claim 67, wherein the metering apparatus comprises a proportioning pump comprising an inlet for the first concentrate, an inlet for the second concentrate, an inlet for the water source, an outlet for dispensing the fountain solution, and a motor piston connected to first and second metering pistons; wherein movement of the motor piston meters water into the apparatus, and causes movement of the first and second metering pistons to meter a proportion of the first and second concentrates into the water within the pump.

69. (previously presented) The system of Claim 67, further comprising a pH monitor, a conductivity monitor, a surface tension monitor, or a combination thereof.

70. (previously presented) The system of Claim 67, further comprising a device for controlling the proportion of the first liquid concentrate, the second liquid concentrate, or both, metered into the water, being connectable to the metering apparatus and operably responsive to the output measurement of pH, conductivity, or surface tension of the fountain solution to adjust the proportion of the first or the second liquid concentrate metered into the water when a value of the output measurement deviates from a predetermined value.

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71. (previously presented) A system for preparing a fountain solution, comprising the following components packaged together:

first and second liquid concentrates each separately contained and packaged together; the first liquid concentrate comprising an aqueous solution of one or more water-soluble film-forming polymers, and one or more organic acids; and the second liquid concentrate comprising an aqueous solution of one or more diluents, one or more solvents, and one or more surfactants; and

a metering apparatus operable for delivering a proportion of each of the first and second liquid concentrates into water to form the fountain solution.

72. (previously presented) The system of Claim 71, wherein the metering apparatus comprises a multi-action proportioning pump operable to meter the first and second liquid concentrates into a mixing chamber within the pump.

73. (new) A system for preparing a fountain solution, comprising: first and second liquid concentrates each separately contained and packaged together; the first liquid concentrate comprising one or more water-soluble film-forming polymers and organic acids, and up to about 30 % by wt or less water; and the second liquid concentrate comprising one or more diluents, solvents and surfactants, and up to about 10 % by wt or less of water.

74. (new) The system of Claim 73, further comprising: an apparatus operable for metering a proportion of each of the first and second liquid concentrates into water to form the fountain solution.

75. (new) The system of Claim 74, wherein the metering apparatus is operable to deliver about 0.1-2 % by volume of the first and second concentrates into the water.

76. (new) The system of Claim 74, wherein the metering apparatus comprises a proportioning pump comprising an inlet for the first concentrate, an inlet for the second concentrate, an inlet for the water source, an outlet for dispensing the fountain solution, and a

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motor piston connected to first and second metering pistons; wherein movement of the motor piston meters water into the apparatus, and causes movement of the first and second metering pistons to meter a proportion of the first and second concentrates into the water within the pump.

77. (new) The system of Claim 73, further comprising, packaged with the first and second concentrations, a device operable to monitor a parameter of the fountain solution or concentrates selected from the group consisting of pH, conductivity, surface tension, and combinations thereof.

78. (new) A system for preparing a fountain solution, comprising:

a liquid film-forming fountain solution concentrate and a liquid surface-tension reducing fountain solution concentrate, each separately contained and packaged together;

the film-forming fountain solution concentrate comprising about 20-40 % by wt film-forming polymer, about 20-30 % by wt organic acid, about 10-20 % by wt inorganic acid, and about 10-20 % by wt buffering agent, and a pH of about 3.5-5.5; and

the surface-tension reducing fountain solution concentrate, comprising: about 30-40 % by wt glycol, about 25-35 % by wt water-soluble glycol ether, about 10-30 % by wt nonionic surfactant, and about 5-20 % by wt solvent selected from the group consisting of partially water-soluble glycol ether, ester, glycol, and alcohol.

79. (new) The system of Claim 78, wherein the film-forming fountain solution concentrate has a pH of about 3.5-5.5, and comprises:

about 20-40 % by wt sodium carboxymethyl cellulose;

about 20-30 % by wt organic acid selected from the group consisting of gluconic acid, glycolic acid, and sulfamic acid;

about 10-20 % by wt inorganic acid selected from the group consisting of phosphorous acid and nitric acid;

about 10-20 % by wt buffering agent selected from the group consisting of organic amines and alkali compounds; and

about 10-20 % by wt water-soluble glycol solvent.

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80. (new) The system of Claim 78, wherein the surface-tension reducing fountain solution concentrate, comprises:

about 30-40 % by wt ethylene glycol n-butyl ether;

about 25-35 % by wt polyethylene glycol;

about 10-30 % by wt nonionic surfactant selected from the group consisting of acetylenic glycols and alkyl pyrrolidones; and

about 5-20 % by wt solvent selected from the group consisting of partially water-soluble glycol ethers and esters.